ACC 300 · MEETING 18

Inventory cost flows

November 3, 2026



Inventory costs in the accounts

Inventory cost flows describe how a company assigns the costs of goods between **Inventory**, an asset, and **Cost of Goods Sold**, an expense.

The company first records goods acquired for resale in Inventory. When it sells goods, it transfers their assigned cost to Cost of Goods Sold.

Goods held for future sale

Inventory

Asset · Balance sheet

On sale, transfer assigned cost



Goods sold in this period

Cost of Goods Sold

Expense · Income statement

The cost flow follows the accounting records. It need not match the order in which physical goods leave the warehouse.

The cost-assignment problem

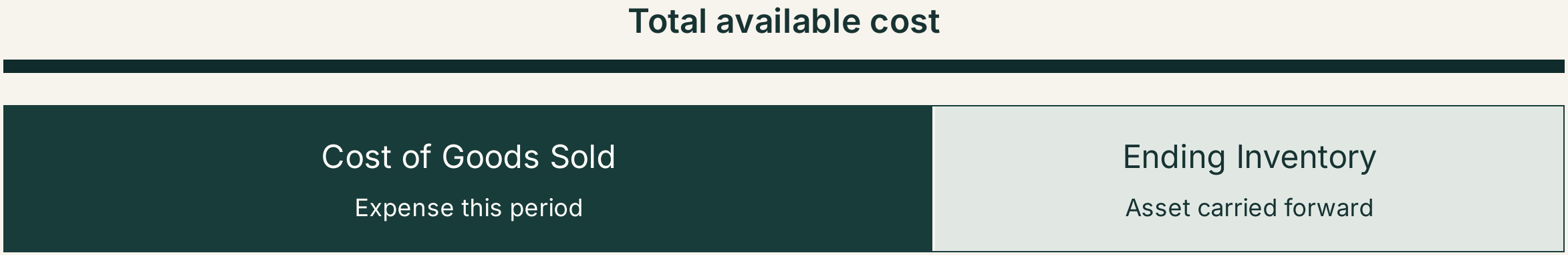
A physical count establishes how many units remain in inventory. To report inventory in dollars, the company must also assign costs to those units.

Acquisition costs	How the company assigns cost
Every unit has the same cost.	Multiply units sold and units held by that common cost.
Unit costs differ across purchases.	Identify which acquisition costs become expense and which remain inventory.

When records identify the exact item sold, the company can trace its actual cost. For interchangeable goods, it can apply a consistent cost-assignment rule.

Inventory costs and gross profit

Total available cost combines beginning inventory cost and the cost of purchases. The company assigns that total between goods sold and goods still held.



Sales revenue – Cost of Goods Sold = Gross profit.

With sales revenue unchanged, more cost retained in Inventory means less Cost of Goods Sold and higher gross profit.

Inventory cost flow methods

Method	How the company assigns costs to goods sold
Specific identification	Use the actual cost of each identified item sold.
First-in, first-out (FIFO)	Assign the earliest available acquisition costs first.
Last-in, first-out (LIFO)	Assign the latest available acquisition costs first.
Average cost	Divide the pooled cost of available goods by the available units. Use that average unit cost for the units sold.

US GAAP permits LIFO; IFRS prohibits it. ASC 330-10-30-9 through 30-11; IAS 2.25.

Specific identification: Apex Motorcars

Under **specific identification**, a company traces acquisition cost to the exact item sold. Apex Motorcars links each used supercar to its vehicle identification number (VIN) and purchase invoice.

Stock record	Car	Recorded acquisition cost
101	2016 Lamborghini Huracán LP580-2	$185,000
102	2018 Ferrari 488 Spider	$240,000
103	2021 McLaren 765LT coupe	$450,000

Apex sells car 102 for $275,000. Its invoice identifies **$240,000** to transfer from Inventory to Cost of Goods Sold.

Gross profit = $275,000 − $240,000 = **$35,000**.

The unsold cars remain in Inventory at **$635,000**. Individual records preserve the cost differences among these distinct cars. Averaging their costs would discard that information.

Bean There's October transactions

Bean There resells finished 12-ounce bags of Common Grounds coffee. Its sales records count bags without tracing each sold bag to its purchase invoice. These are all of its October inventory transactions.

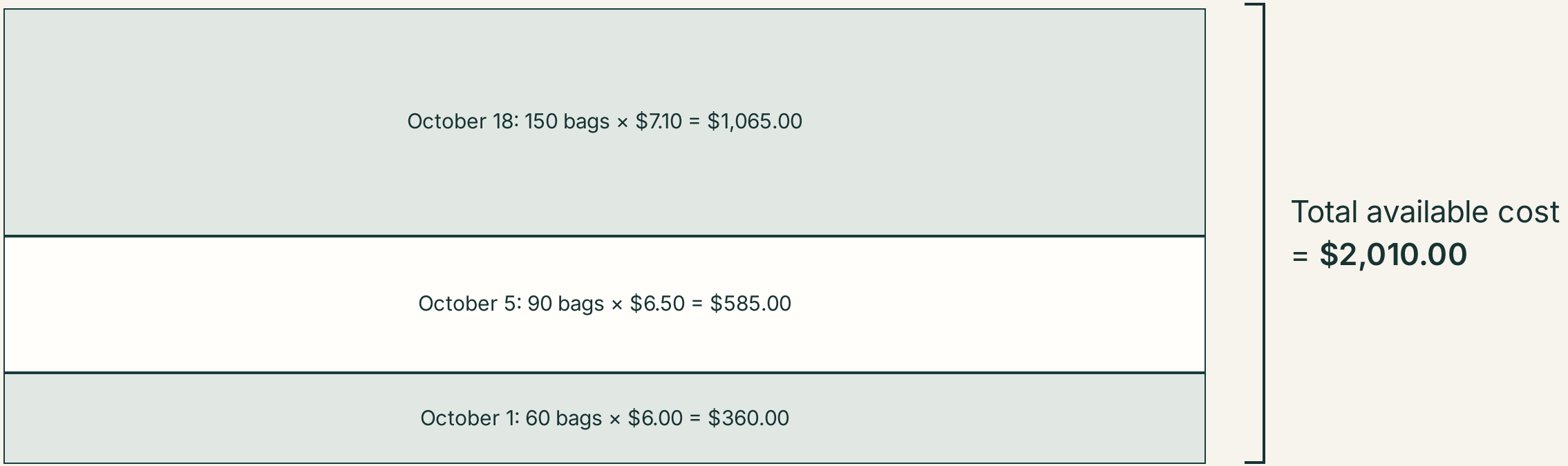
October 2026	Transaction	Bags	Acquisition cost per bag
October 1	Beginning inventory	60	$6.00
October 5	Purchase	90	$6.50
October 10	Sale	100	
October 18	Purchase	150	$7.10
October 25	Sale	120	

Every bag sells for **$10.00**. The bags contain the same product. There are no purchase adjustments or inventory losses.

Available inventory and cost layers

Beginning inventory and purchases form the available cost. Each **cost layer** records units acquired on a given date at a given unit cost. A later purchase forms a separate layer even if its unit cost matches an earlier purchase.

Dated acquisition costs available in October



Bean There had **300 bags available** during October. It sold **220** and holds **80** at month-end.

Periodic and perpetual systems

The **inventory system** determines when the company records the cost of goods sold.

System	When costs are assigned	Costs available for assignment
Periodic	At period-end, using an ending inventory count.	Beginning inventory and purchases for the whole period.
Perpetual	At each sale, updating Inventory and Cost of Goods Sold.	Only costs available when that sale occurs.

Under either system, a **cost-flow assumption** supplies the rule for selecting or averaging costs. The company can use that rule even when physical shipments follow a different order.

iClicker | Question 1 of 5

A company uses a **periodic inventory system**. Its year-end count accidentally omits a shelf of unsold goods that the company owns. Purchases and sales revenue are recorded correctly.

If the company uses that count without correcting it, how will it report **COGS and gross profit**?

A COGS understated; gross profit overstated.

B COGS unchanged; gross profit unchanged.

C COGS overstated; gross profit understated.

D COGS overstated; gross profit unchanged.

iClicker | Answer 1 of 5

Correct answer: C

A company uses a **periodic inventory system**. Its year-end count accidentally omits a shelf of unsold goods that the company owns. Purchases and sales revenue are recorded correctly.

If the company uses that count without correcting it, how will it report **COGS and gross profit**?

A **COGS understated; gross profit overstated.**
Reverses the effects. This would follow from counting goods twice, which overstates ending inventory.

B **COGS unchanged; gross profit unchanged.**
Treats the count as affecting only the asset. Under periodic accounting, the count also determines how much available cost becomes COGS.

C **COGS overstated; gross profit understated.**
C is correct: The omitted goods make ending inventory too low. With total available cost unchanged, the company assigns too much cost to COGS. That excess expense understates gross profit.

D **COGS overstated; gross profit unchanged.**
Recognizes the excess expense but leaves gross profit unchanged. Correct sales revenue does not prevent a COGS error from changing gross profit.

PERIODIC METHODS

Periodic cost assignment



Periodic FIFO

> **First-in, first-out (FIFO)** assigns the earliest available costs to goods sold.

Bean There · October · Periodic system

Bean There had **300 bags available**, sold **220 bags**, and counted **80 bags remaining** at month-end.

FIFO assigns the costs of all 60 beginning-inventory bags and all 90 bags purchased on October 5 to **Cost of Goods Sold**. It also assigns the costs of **70 of the 150 bags purchased on October 18**.



FIFO: October reporting

FIFO leaves the most recent costs in inventory: the unsold portion of the October 18 layer.



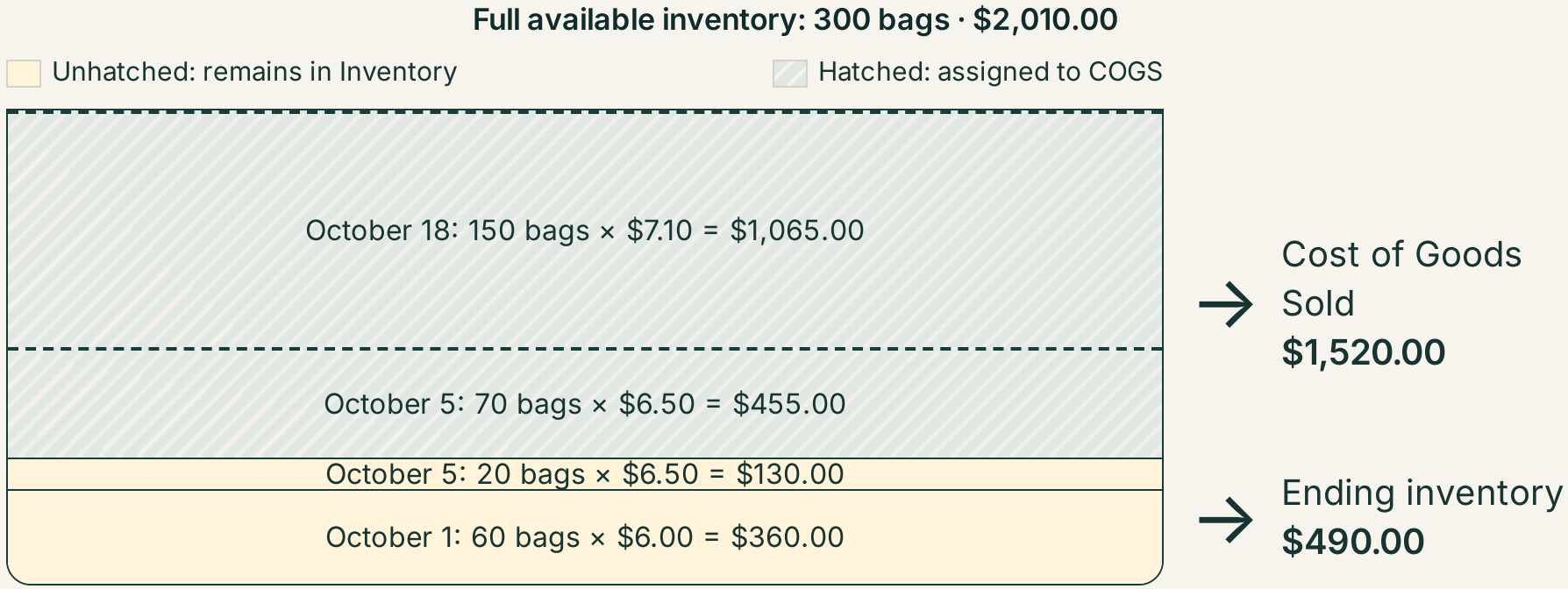
October reporting under periodic FIFO	Amount
Sales revenue	$2,200.00
Less: Cost of goods sold	$1,442.00
Gross profit	$758.00
Ending inventory	$568.00

The $568.00 asset contains purchase costs. The $10 selling price does not increase inventory or create profit before a sale.

Periodic LIFO

Last-in, first-out (LIFO) assigns the latest available costs to goods sold.

At month-end, cost the 220 sold bags using all 150 from October 18 first. That leaves **220 − 150 = 70 bags** to cost from October 5.



Periodic weighted average

Periodic weighted average divides the cost of all available goods among all available units.

$$\text{Average cost per bag} = \frac{\text{Total cost available for sale}}{\text{Total units available for sale}}$$

Acquisition	Bags × unit cost	Cost
October 1 opening inventory	60 × $6.00	$360.00
October 5 purchase	90 × $6.50	$585.00
October 18 purchase	150 × $7.10	$1,065.00

$$\text{Average cost per bag} = \frac{\$360.00 + \$585.00 + \$1{,}065.00 = \$2{,}010.00}{60 + 90 + 150 = 300 \text{ bags}} = \$6.70 \text{ per bag}$$

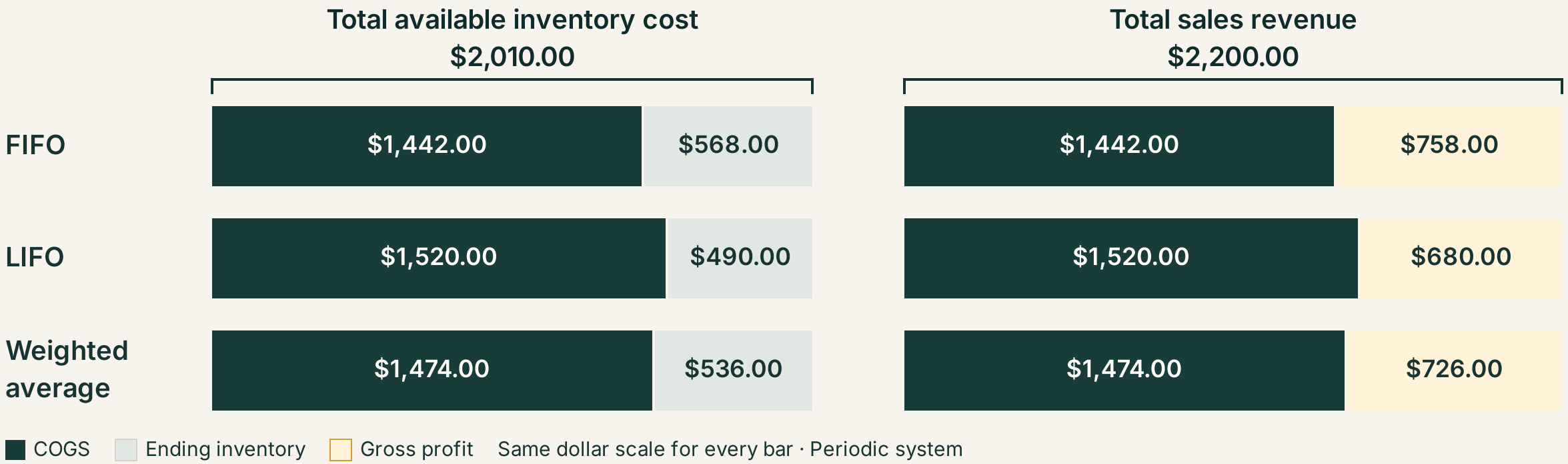
Larger purchases contribute more units and cost, so they have more weight in the average.

Weighted average: October reporting

Assignment	Calculation	Amount
Cost of goods sold	220 bags × $6.70	$1,474.00
Ending inventory	80 bags × $6.70	$536.00
Gross profit	$2,200.00 − $1,474.00	$726.00

Each remaining bag carries the same $6.70 average cost, regardless of its purchase date.

Comparing periodic methods



- **Rising costs here:** FIFO reports higher inventory and gross profit than LIFO.
- **Steadily falling costs:** FIFO reports lower inventory and gross profit than LIFO.
- The methods divide the same **$2,010.00**; purchases, units sold, and revenue stay unchanged.

Periodic methods: Practice

Take a few minutes to work through this on your own or with those around you.

Bean There · Separate March practice case · Periodic system

Bean There resells 12-ounce bags of Common Grounds coffee. These are all its March inventory acquisitions.

Acquisition	Units	Unit cost	Total cost
March 1 beginning inventory	20	$5.00	20 × $5.00 = $100.00
March 8 purchase	30	$6.00	30 × $6.00 = $180.00
March 20 purchase	50	$7.00	50 × $7.00 = $350.00
Total available	**100**		**$630.00**

Bean There sells **60 bags of coffee**. There are no other inventory changes.

1. Calculate the **weighted-average cost per bag**. Show your calculation.
2. Calculate ending inventory and COGS under **FIFO, LIFO, and weighted average**.
3. With sales revenue unchanged, which method reports the highest gross profit? Explain why.

Periodic methods: Solution

Bean There · March · Periodic: 100 units available; 60 sold; 40 remain.

Total available cost = (20 × $5.00) + (30 × $6.00) + (50 × $7.00) = **$630.00**.

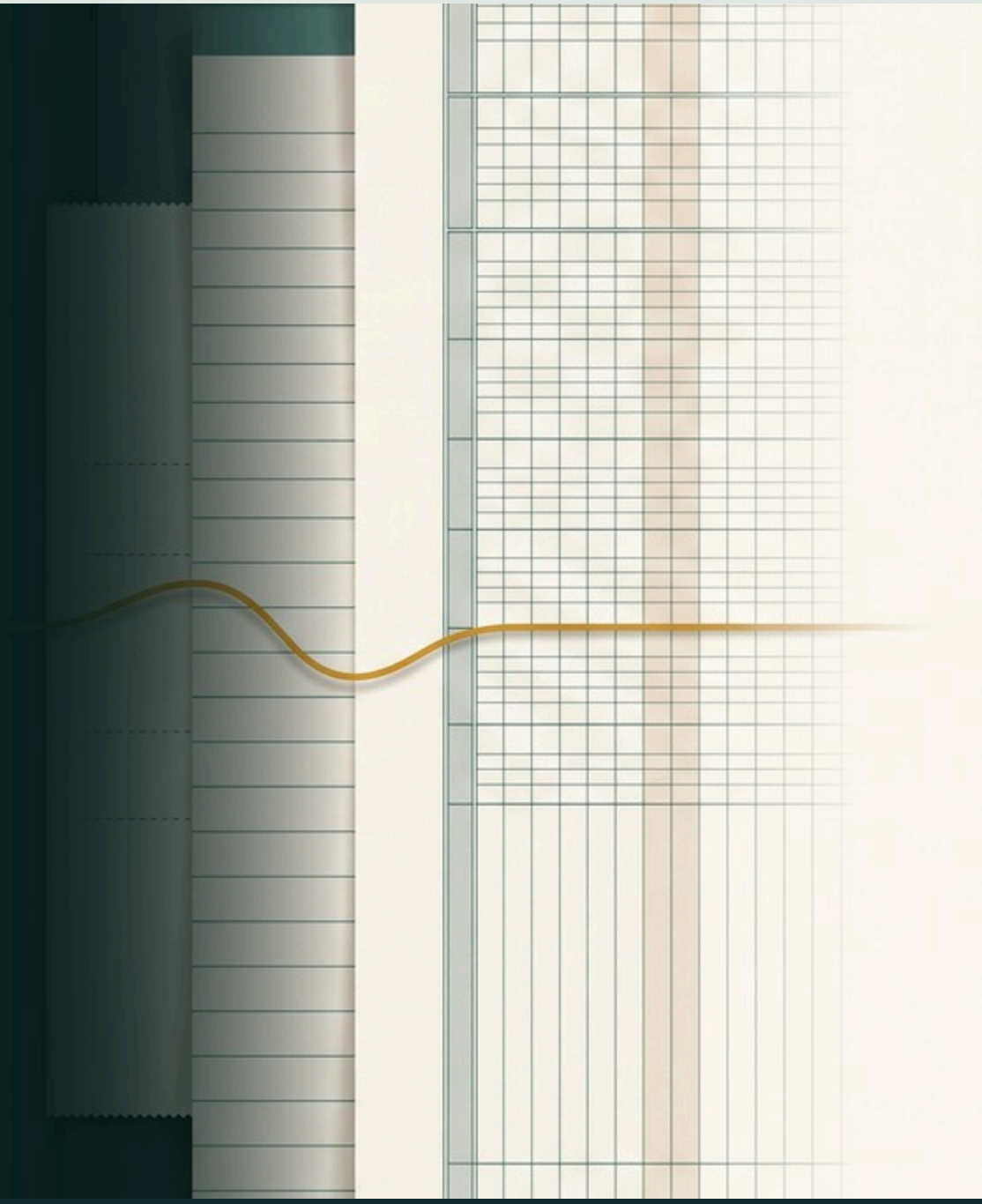
$$\text{Weighted-average cost per bag} = \frac{\$630.00}{100 \text{ units}} = \$6.30$$

Method	Ending inventory calculation	Ending inventory	COGS calculation
FIFO	(40 × $7.00)	$280.00	$630.00 − $280.00 = **$350.00**
LIFO	(20 × $5.00) + (20 × $6.00)	$220.00	$630.00 − $220.00 = **$410.00**
Weighted average	40 × $6.30	$252.00	$630.00 − $252.00 = **$378.00**

FIFO reports the highest gross profit. It assigns the lowest cost to sales, $350.00, because the earlier purchases cost less. With the same revenue, lower COGS means higher gross profit.

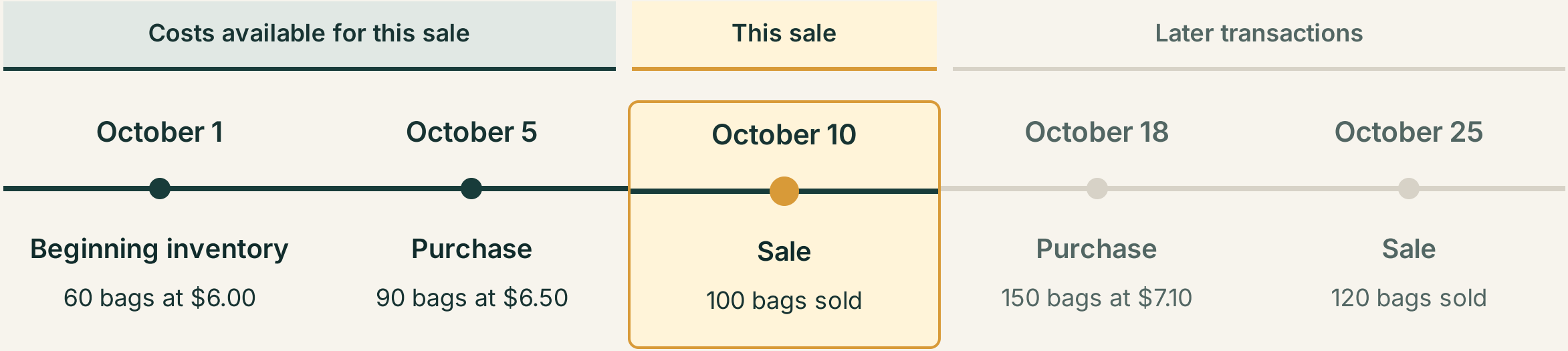
PERPETUAL METHODS

Perpetual cost assignment



Perpetual inventory: Transaction timeline

Now use Bean There's same October transactions under a **perpetual inventory system**. Bean There records Cost of Goods Sold at each sale.



To cost the October 10 sale, use the October 1 and October 5 inventory. The October 18 purchase has not happened yet.

FIFO and LIFO: October 10 sale

Perpetual system · October 10 sale of 100 bags

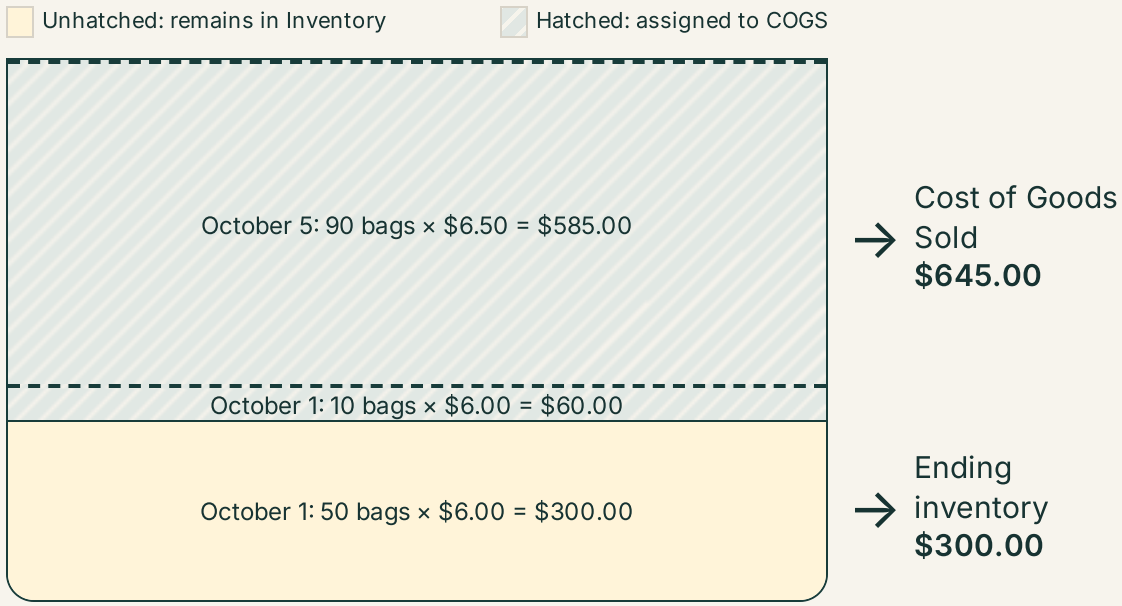
FIFO

Full available inventory: 150 bags · $945.00



LIFO

Full available inventory: 150 bags · $945.00



At each sale, debit Cost of Goods Sold and credit Inventory for the assigned cost.

FIFO and LIFO: October 25 sale

Perpetual system · October 25 sale of 120 bags

FIFO

Full available inventory: 200 bags · $1,390.00



FIFO begins with the 50 bags left after its first sale.

LIFO

Full available inventory: 200 bags · $1,365.00



LIFO begins with the October 18 purchase, the latest available layer.

Perpetual moving average

Periodic weighted average uses one average for the entire period. Under **perpetual moving average**, the company recalculates the average after each purchase.

Transaction	How the company assigns cost
Purchase	Combine the cost of inventory still held with the new purchase. Divide by the combined number of units to find the new average.
Sale	Multiply units sold by the latest average to record Cost of Goods Sold. The remaining units keep that same average cost.

A purchase changes the mix of costs in inventory. A sale removes units at the current average, so the average itself stays unchanged.

Moving average: October 10 sale

Bean There · October 10 sale

Costs available before the sale	Bags × unit cost	Cost
October 1 opening inventory	60 × $6.00	$360.00
October 5 purchase	90 × $6.50	$585.00

$$\text{Average cost per bag} = \frac{\$360.00 + \$585.00}{60 + 90 \text{ bags}} = \$6.30 \text{ per bag}$$

The sale assigns **100 × $6.30 = $630.00** to COGS.

The remaining 50 bags carry **50 × $6.30 = $315.00**. The sale reduces quantity and cost proportionately, so the unit average stays unchanged.

Moving average: October 18 purchase

Perpetual moving average · Bean There · October 18

Source of inventory now held	Bags	Cost
Remaining after the October 10 sale	50	50 × $6.30 = $315.00
October 18 purchase	150	150 × $7.10 = $1,065.00

$$\text{Average after the purchase} = \frac{\$315.00 + \$1{,}065.00}{50 + 150 \text{ bags}} = \$6.90 \text{ per bag}$$

The remaining bags keep their $315.00 cost from the previous calculation. The purchase adds $1,065.00 to that balance.

The two groups' quantities determine how strongly their unit costs affect the new average. Use this average for the next sale.

Moving average: Inventory account

Bean There · October 2026 · Perpetual moving average

October 25 sale: 120 bags × $6.90 = **$828.00**.

Remaining inventory: 80 bags × $6.90 = **$552.00**.

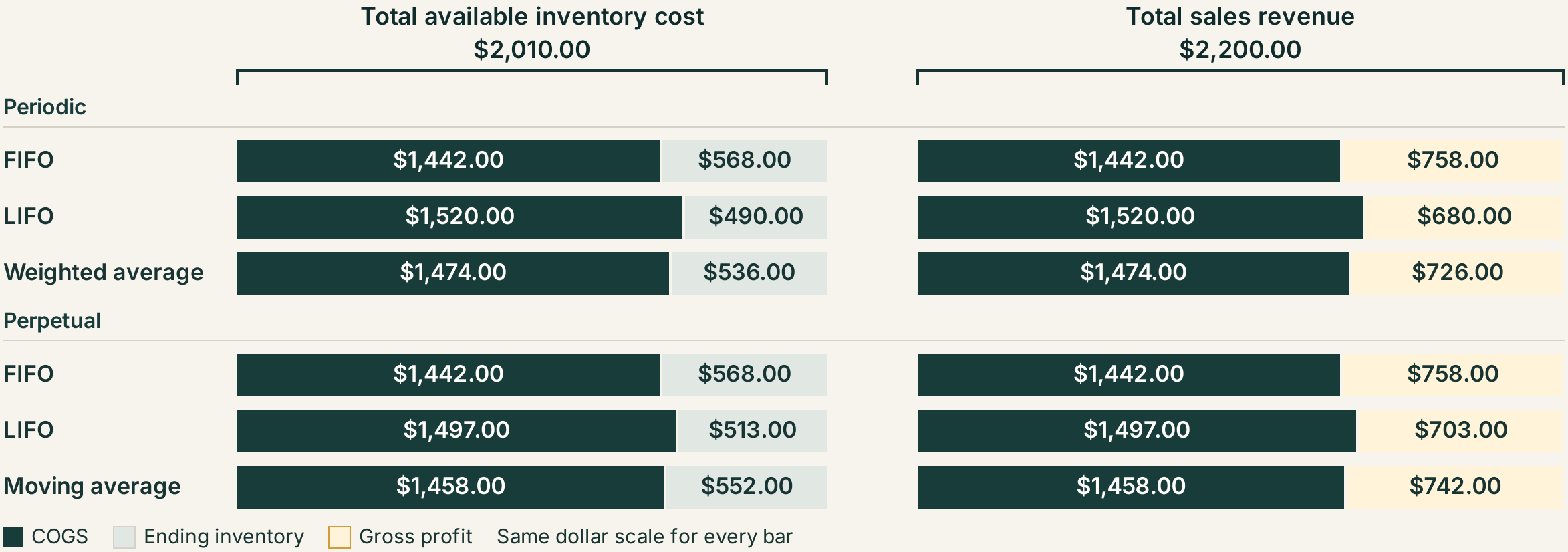
Inventory

DEBIT		CREDIT	
October 1 BB	**$360**		
October 5 purchase	**$585**		
		$630	October 10 sale
October 18 purchase	**$1,065**		
		$828	October 25 sale
Ending balance	**$552**		

The credits total **$1,458.00**, the cost already assigned to sales. The **$552.00** debit balance is the cost of the bags still held.

A later moving-average calculation starts with that remaining cost, not with all costs ever purchased.

Comparing periodic and perpetual results



- FIFO gives the same results under both systems; LIFO and average cost differ here.
- Rising costs put average cost between FIFO and LIFO here. With fluctuating prices, moving average can fall outside that range.

Perpetual methods: Practice

Take a few minutes to work through this on your own or with those around you.

Bean There · Separate April practice case · Perpetual system

For FIFO and LIFO, begin with the two remaining cost layers below.

Inventory available for the April 12 sale	Units	Unit cost
Older remaining layer	10	$6.00
Newer remaining layer	10	$7.00
April 10 purchase	20	$7.50

For moving average, the opening 20 units carry a total cost of $130.00.

On April 12, Bean There sells **25 bags of coffee**. No other transactions occur between the purchase and sale.

1. Calculate this sale's COGS and remaining inventory under **FIFO and LIFO**.
2. Under **moving average**, calculate the average after the purchase, then this sale's COGS and remaining inventory.

Perpetual methods: Solution

Bean There · April 12 · Perpetual: 40 units available; 25 sold; 15 remain.

Total cost available = $130.00 opening inventory + (20 bags × $7.50) April 10 purchase = **$280.00**.

$$\text{Moving-average unit cost} = \frac{\$280.00}{40 \text{ units}} = \$7.00$$

Method	Sale's COGS calculation	COGS	Remaining inventory
FIFO	(10 × $6.00) + (10 × $7.00) + (5 × $7.50)	$167.50	$112.50
LIFO	(20 × $7.50) + (5 × $7.00)	$185.00	$95.00
Moving average	25 × $7.00	$175.00	$105.00

For each method, **remaining inventory = $280.00 − this sale's COGS**.

The new average combines the remaining costs with the April 10 purchase. Costs assigned to earlier sales stay in expense.

iClicker | Question 2 of 5

A retailer uses **perpetual moving average**. Its new purchase costs more per unit than the current moving average, but less than its previous purchase.

Immediately after the new purchase, what happens to the moving-average unit cost?

A. It rises above the previous moving average.

B. It falls below the previous moving average.

C. It stays unchanged until the next sale.

D. Its direction cannot be determined without the purchase quantity.

iClicker | Answer 2 of 5

Correct answer: A

A retailer uses **perpetual moving average**. Its new purchase costs more per unit than the current moving average, but less than its previous purchase.

Immediately after the new purchase, what happens to the moving-average unit cost?

A **It rises above the previous moving average.**

A is correct. The company combines its remaining inventory with units costing more than that inventory's average. The combined average rises.

B **It falls below the previous moving average.**

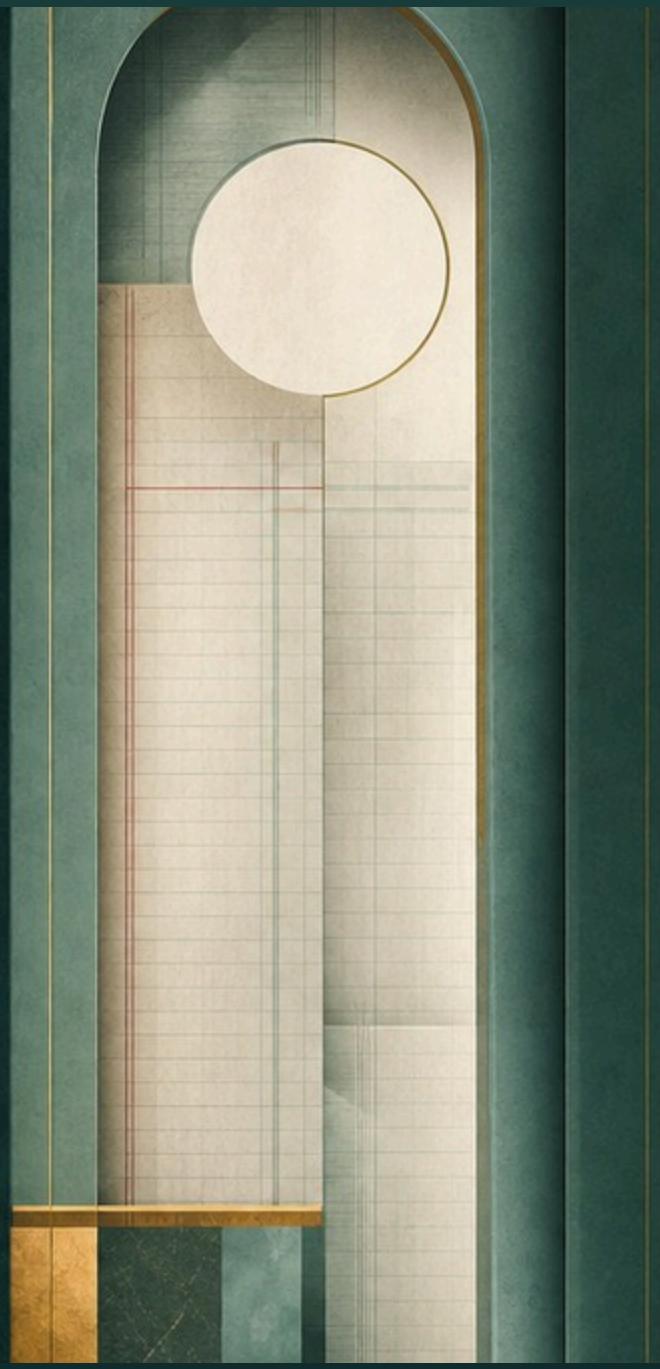
Compares the new price with the previous purchase price. The relevant starting point is the average cost of all inventory still held.

C **It stays unchanged until the next sale.**

Delays the recalculation until a sale. A purchase changes the mix of costs; a sale uses the existing average.

D **Its direction cannot be determined without the purchase quantity.**

Confuses the size of the change with its direction. Purchase quantity determines how strongly the new price affects the average.



REPORTING EFFECTS

Interpreting inventory and profit

Cost assignment for finished goods

Common Grounds holds completed production costs in **Finished Goods** until it assigns those costs to bags sold.

Company	Starting cost layers	On sale
Bean There (retailer)	Acquisition costs of purchased bags	Transfer assigned acquisition cost to expense.
Common Grounds (manufacturer)	Production costs of completed batches	Transfer assigned finished-goods cost to expense.

The same methods assign costs between sold and remaining bags. Producing the bags changes how the unit costs were accumulated, not the cost-selection principle.

Inventory methods and gross margin

A FIFO retailer reports a higher gross margin than a LIFO retailer. Does it charge better prices or buy more efficiently?

The reported margins alone cannot establish that.

- With rising costs, FIFO assigns older, lower costs to COGS than LIFO does.
- Part of the margin difference may come from the inventory methods, even when operating performance is similar.
- Check each company's inventory policy in the notes. Put the amounts on a comparable cost basis before judging performance.

Inventory methods also affect turnover and days in inventory. After examining those measures, we will use the **LIFO reserve** to compare costs on the same basis.

Inventory metrics



Inventory turnover

A retailer needs stock to make sales, but unsold stock ties up funds. **Inventory turnover** measures annual cost of goods sold for each dollar of average inventory held.

$$\text{Inventory turnover} = \frac{\text{Annual cost of goods sold}}{\text{Average inventory}}$$

Using beginning and ending balances:

$$\text{Average inventory} = \frac{\text{Beginning inventory} + \text{Ending inventory}}{2}$$

Both amounts in the turnover ratio are measured at cost. COGS measures the cost of inventory sold during the year. Dividing by average inventory measures how many times the company sold an amount equal to its average inventory.

Inventory turnover: Bean There

Bean There · Separate annual illustration · Reported LIFO amounts

Beginning inventory	Ending inventory	Annual COGS	Sales revenue
$18,000	$22,000	$160,000	$240,000

$$\text{Average inventory} = \frac{\$18{,}000 + \$22{,}000}{2} = \$20{,}000$$

$$\text{Inventory turnover} = \frac{\text{Annual COGS}}{\text{Average inventory}} = \frac{\$160{,}000}{\$20{,}000} = 8.00 \text{ times per year}$$

Bean There sold goods costing 8.00 times its average recorded inventory during the year.

These figures cover all coffee inventory for the year. There are no write-downs. For days in inventory, use a 365-day year.

Days in inventory

Days in inventory estimates how many days, on average, a company holds inventory before selling it.

$$\text{Days in inventory} = \frac{\text{Days in the year}}{\text{Inventory turnover}}$$

- More days means funds stay tied up in stock longer, with greater exposure to storage costs and spoilage.
- Fewer days can mean leaner inventory, but too little stock can leave the company unable to fill customer orders.

If opening and closing balances miss seasonal stock peaks, the average understates inventory held. Calculated turnover then rises and estimated days fall without any change in sales activity.

$$\text{Days in inventory} = \frac{365 \text{ days}}{8.00} = \text{About } 45.6 \text{ days}$$

Bean There's average inventory equals about 45.6 days of its annual cost-of-goods-sold rate. Individual bags may sell sooner or remain longer.

iClicker | Question 3 of 5

Two retailers buy and sell identical quantities on the same dates at the same prices. One uses periodic LIFO; the other uses periodic FIFO. Unit costs rise. Each retailer purchases more units during the period than it sells.

Compared with FIFO, what should the **LIFO retailer** report?

A Lower inventory turnover and higher days in inventory.

B Higher inventory turnover and higher days in inventory.

C The same inventory turnover and the same days in inventory.

D Higher inventory turnover and lower days in inventory.

iClicker | Answer 3 of 5

Correct answer: D

Two retailers buy and sell identical quantities on the same dates at the same prices. One uses periodic LIFO; the other uses periodic FIFO. Unit costs rise. Each retailer purchases more units during the period than it sells.

Compared with FIFO, what should the **LIFO retailer** report?

A **Lower inventory turnover and higher days in inventory.**
Reverses the cost effects on turnover and days.

B **Higher inventory turnover and higher days in inventory.**
Reverses the relationship between turnover and days.

C **The same inventory turnover and the same days in inventory.**
Treats identical physical activity as identical reported costs.

D **Higher inventory turnover and lower days in inventory.**
D is correct. LIFO produces higher cost of goods sold and lower average inventory, increasing turnover. Days fall because days = 365 ÷ turnover.

LIFO reserve



The LIFO reserve

A **LIFO reserve** reports how much inventory measured under FIFO differs from inventory measured under LIFO. It lets a reader restate the same goods on a FIFO cost basis.

LIFO reserve = FIFO inventory − LIFO inventory.

Add the reserve to Bean There's reported LIFO inventory to obtain its FIFO amount.

Reporting date	LIFO inventory	Add reserve	FIFO inventory
Beginning of year	$18,000	$3,000	$21,000
End of year	$22,000	$5,000	$27,000

The closing reserve describes the accumulated inventory difference at year-end. It does not describe only the current year's expense difference.

Converting LIFO COGS to FIFO

COGS = Beginning inventory + Purchases – Ending inventory.

Start with reported LIFO COGS. Purchases stay unchanged.

Adjustment	Why it changes COGS
Add the beginning reserve.	• **More starting cost under FIFO:** more cost was available for sale. • **Less starting cost under FIFO:** less cost was available for sale.
Subtract the ending reserve.	• **More cost still held under FIFO:** more must be left out of expense. • **Less cost still held under FIFO:** less must be left out of expense.

FIFO COGS = LIFO COGS + Beginning reserve – Ending reserve.

Use each reserve with its positive or negative sign.

Bean There example

FIFO has **$3,000 more starting cost**, but **$5,000 more cost still held**. That leaves **$2,000 less expense** for the year.

FIFO COGS = $160,000 + $3,000 − $5,000 = **$158,000**.

Inventory ratios after FIFO conversion

Bean There · Using the FIFO amounts calculated in the reserve conversion

$$\text{FIFO average inventory} = \frac{\$21{,}000 + \$27{,}000}{2} = \$24{,}000$$

$$\text{Inventory turnover} = \frac{\text{FIFO COGS}}{\text{Average FIFO inventory}} = \frac{\$158{,}000}{\$24{,}000} = 6.58 \text{ times per year}$$

$$\text{Days in inventory} = \frac{365 \text{ days}}{\text{Turnover using FIFO (unrounded)}} = \text{About } 55.4 \text{ days}$$

Measure	Reported LIFO	Converted FIFO
Inventory turnover	8.00	6.58
Days in inventory	45.6	55.4

The ratios change; Bean There's purchases and sales do not. Lower FIFO COGS and higher FIFO average inventory reduce turnover and increase days in inventory.

iClicker | Question 4 of 5

A company reports a **positive LIFO reserve that is unchanged from the beginning to the end of the year.**

To restate its LIFO amounts to FIFO, what adjustments are needed?

A Increase ending inventory and increase current-year COGS.

B Increase ending inventory; leave current-year COGS unchanged.

C Leave ending inventory unchanged; decrease current-year COGS.

D Leave both ending inventory and current-year COGS unchanged.

iClicker | Answer 4 of 5

Correct answer: B

A company reports a **positive LIFO reserve that is unchanged from the beginning to the end of the year.**

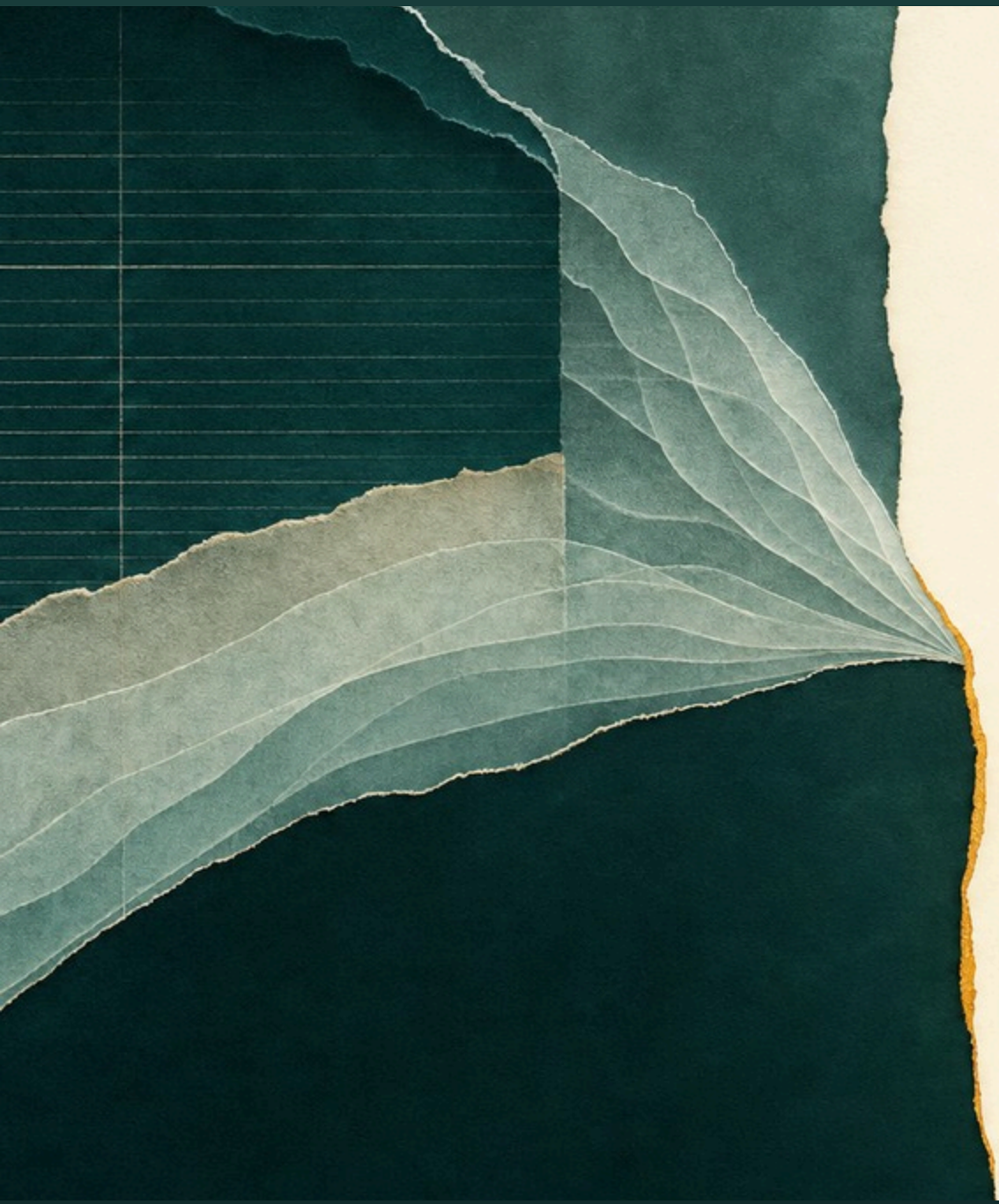
To restate its LIFO amounts to FIFO, what adjustments are needed?

A **Increase ending inventory and increase current-year COGS.**
Treats the accumulated inventory difference as a current-year expense increase.

B **Increase ending inventory; leave current-year COGS unchanged.**
B is correct. The positive reserve still raises inventory to its FIFO amount. Equal opening and closing adjustments cancel in the current-year COGS reconciliation.

C **Leave ending inventory unchanged; decrease current-year COGS.**
Applies an expense adjustment while ignoring the inventory difference.

D **Leave both ending inventory and current-year COGS unchanged.**
Treats an unchanged difference as no difference. The reserve balance still adjusts ending inventory.



LIFO liquidation

LIFO liquidation: Bean There

> A **LIFO liquidation** occurs when inventory quantities fall and the company assigns costs from older inventory layers to COGS.

Bean There · November · Periodic LIFO

November activity	Bags and prices
Beginning inventory	60 bags at $6.00; 20 bags at $6.50
Purchases	70 bags at $7.20
Sales	100 bags at $10.00

There are no other inventory changes.

Sales exceed purchases by 30 bags. Under LIFO, COGS includes the costs of all **70 bags purchased in November**, then **30 bags from beginning inventory**.

These are the costs assigned to sales; the bags shipped can come from any purchase.

LIFO liquidation: November cost layers

Periodic LIFO · November



The remaining inventory consists of 50 bags at $6.00.

LIFO liquidation and gross profit

Compare reported expense with a benchmark that prices every bag sold at the current $7.20 purchase cost. Sales revenue stays unchanged.

November amount	Reported LIFO	Current-cost benchmark
Sales revenue	$1,000.00	$1,000.00
Cost of goods sold	$694.00	$720.00
Gross profit	$306.00	$280.00

The **$26.00** difference comes from releasing lower historical costs. If Bean There replenishes at current costs, those purchases will not provide the same low-cost amount for future sales.

iClicker | Question 5 of 5

A retailer uses **periodic LIFO** and sells more units than it purchases this year. Its older inventory layers cost more per unit than current purchases.

Compared with assigning current purchase cost to every unit sold, what does releasing the older layers do? Sales revenue is the same in both comparisons.

A Raises COGS and lowers gross profit.

B Lowers COGS and raises gross profit.

C Leaves both COGS and gross profit unchanged.

D Raises COGS and leaves gross profit unchanged.

iClicker | Answer 5 of 5

Correct answer: A

A retailer uses **periodic LIFO** and sells more units than it purchases this year. Its older inventory layers cost more per unit than current purchases.

Compared with assigning current purchase cost to every unit sold, what does releasing the older layers do? Sales revenue is the same in both comparisons.

A **Raises COGS and lowers gross profit.**

A is correct. Sales reach older layers with higher costs. Those costs raise expense above the current-cost benchmark, leaving less gross profit from the same revenue.

B **Lowers COGS and raises gross profit.**

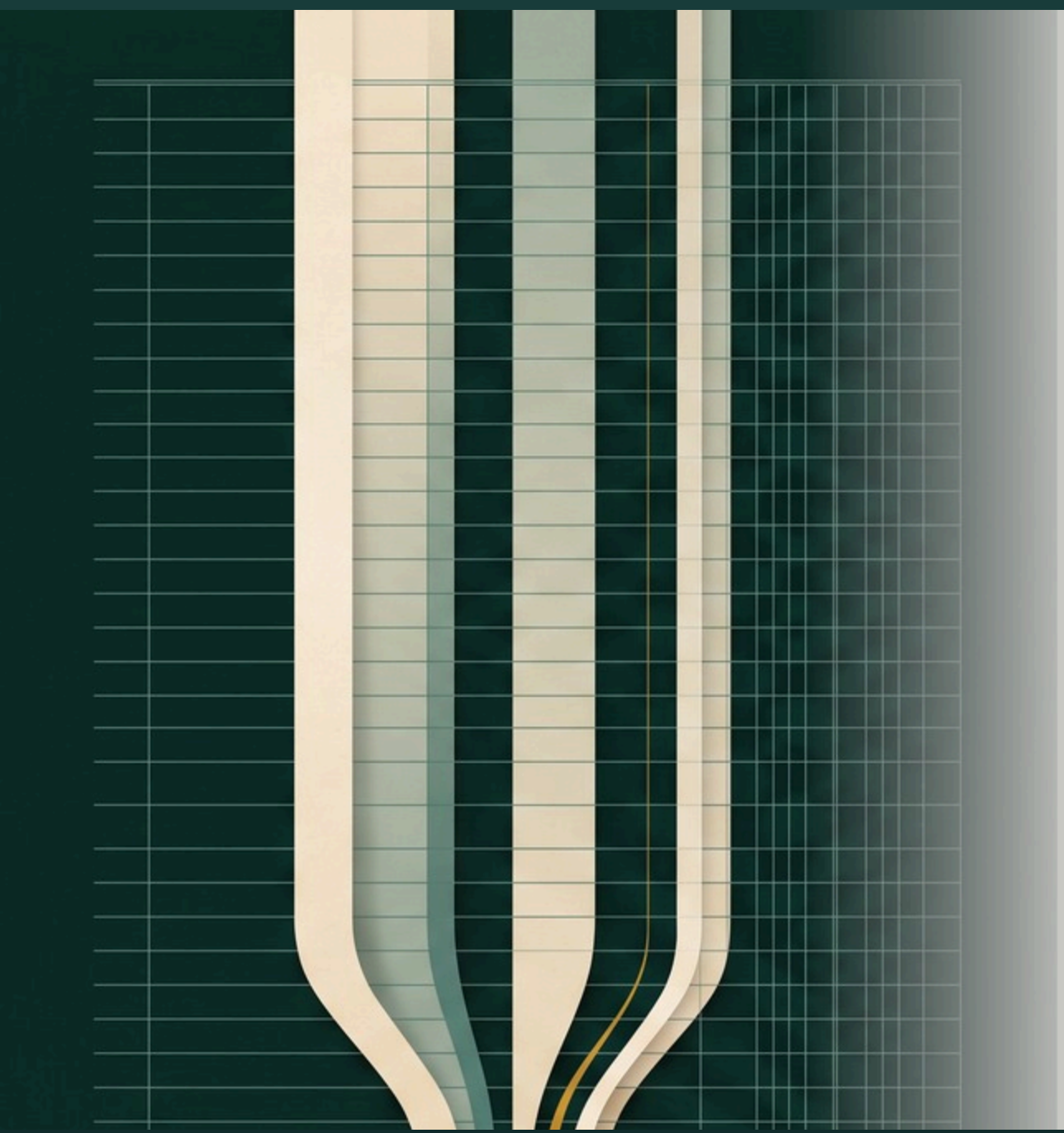
Assumes older layers always have lower costs. Their actual costs determine the direction.

C **Leaves both COGS and gross profit unchanged.**

Treats identical physical sales as identical assigned costs.

D **Raises COGS and leaves gross profit unchanged.**

Recognizes the extra expense but ignores its effect on gross profit.



DOLLAR-VALUE LIFO

Dollar-value LIFO

One pool and a supplied price index

Dollar-value LIFO

Under **dollar-value LIFO**, a company groups inventory into a **pool** and tracks its layers in dollars rather than units of each product.

A pool's cost at current prices can rise because the company holds more inventory, because prices rose, or both. A price increase alone does not create a new inventory layer.

To identify growth, express the ending pool at **base-year prices**, the prices from a fixed reference year.

$$\text{Ending pool at base-year prices} = \frac{\text{Ending pool at current prices}}{\text{Price index}}$$

Compare the beginning and ending pool at those same prices. An increase creates a new layer; the price increase itself does not.

Dollar-value LIFO: Base-year costs

Separate one-pool illustration · Supplied facts

Beginning base-year layer	Base-year index	Ending pool at current prices	Year-end index
$20,000	1.00	$26,400	1.10

An index of 1.10 means $1.00 at base-year prices corresponds to $1.10 at year-end prices.

$$\text{Ending inventory at base-year prices} = \frac{\$26{,}400}{1.10} = \$24{,}000$$

Dividing removes the price increase from the ending amount. We can now compare it with the opening $20,000 layer on the same price basis.

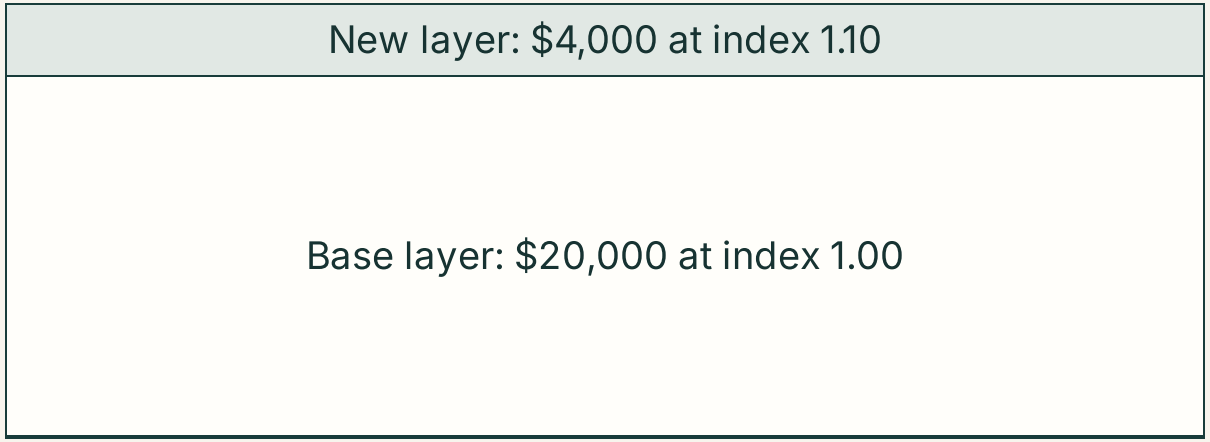
New base-year layer = $24,000 − $20,000 = $4,000.

The pool increased by $4,000 at base-year prices, creating a new layer.

Dollar-value LIFO: Layer valuation

Layer	Base-year amount	Layer index	Recorded cost
Existing base layer	$20,000	1.00	$20,000
New layer	$4,000	1.10	$4,400
Total dollar-value LIFO inventory			**$24,400**

The existing layer retains its historical valuation. Only the new layer receives the new layer's index.



Dollar-value LIFO: Practice

Take a few minutes to work through this on your own or with those around you.

Use one inventory pool with these facts:

Beginning base-year layer	Ending inventory at current prices	Supplied year-end index
$20,000	$28,600	1.10

1. Calculate ending inventory at base-year prices.
2. Find the new layer at base-year prices, then calculate its recorded cost.
3. Calculate total ending inventory under dollar-value LIFO.

Dollar-value LIFO: Solution

Beginning base-year layer: $20,000. Ending current-price amount: $28,600. Supplied index: 1.10.

$$\text{Ending inventory at base-year prices} = \frac{\$28{,}600}{1.10} = \$26{,}000$$

New layer at base-year prices = $26,000 − $20,000 = **$6,000**.

Layer	Base-year amount	Layer index	Recorded cost
Existing base layer	$20,000	1.00	$20,000
New layer	$6,000	1.10	$6,000 × 1.10 = $6,600
Ending dollar-value LIFO inventory			**$26,600**

Ending inventory = $20,000 + $6,600 = **$26,600**. The existing layer keeps its recorded cost; only the new layer uses the year-end index.

NEXT MEETING

Next class: Inventory measurement and errors

Thursday, November 5, 2026

